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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,231	03/28/2006	Dirk Kruse	03100291AA	5181
30743	7590	11/17/2009	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			GREEN, ANTHONY J	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			11/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/595,231	KRUSE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anthony J. Green	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 June 2009 and 08 September 2009.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11,12,18,22 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 11,18,27 and 29 is/are allowed.
- 6) Claim(s) 12,22,28 and 30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Response to Amendment***

1. This office action is in response to the amendment and arguments submitted on 16 June 2009 and 08 September 2009. Claims 27-30 have been added and accordingly claims 11-12, 18, 22 and 27-30 are currently pending in the application.
2. Applicant's submission of examples showing experiments is noted however it unclear as to how these arguments are commensurate in scope with the instant claims. It is unclear as what applicant is trying to show by the submission of the example. Applicant states that the submission shows pyroplast HW containing a volume former and two experiments with a composition according to the invention and this is not clear in the submission presented. **Clarification is required.**
3. Based on applicant's arguments the art rejections of claims 11 and 18 are overcome.

### ***Claim Objections***

4. Claim 30 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

This claim fails to further limit claim 22 as claim 22 already recites the use of 2 ceramic forming additives.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12 and new claim 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent Specification No. DE19826780 A for the reasons set forth in the previous office action and which are herein incorporated by reference.

Applicant argues that the reference is irrelevant as the reference teaches the use of silicic acid and the only silica compounds suggested from use in the present invention are SiO<sub>2</sub> and SiC.

To this argument the examiner respectfully disagrees as the reference teaches the use of mixtures of carbonates such as various mixtures of carbonates such as sodium carbonate (a salt) which, according to the instant specification, would meet the ceramic former and sodium hydrogen carbonate (a salt), which according to the instant specification, would meet the volume former. Note that this was pointed out in the previous rejection. With respect to claim 28 note that the claims of the translation recite mixtures of carbonates. Accordingly the instant claims are rendered obvious by the reference.

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7. Claims 22 and new claim 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conradie et al (US Patent No. 5,817,369A) for the reasons set forth in the previous office action and which are herein incorporated by reference.

Applicant argues that the composition of the reference is formulated to insure that the solution impregnates the wood and that one of ordinary skill in the art would not be motivated to remove the requirements of the reference as this would render the invention inoperable.

To this argument the examiner respectfully disagrees as the instant claims are specifically drawn to a composition. The limitation of “wherein in the event of heating, a volume of a layer ....500% in volume” is an intended use limitation and adds little or no patentable weight to a composition claim when the composition is the same. That is, the composition is not required to be heated, the claim merely requires that when it is heated that a volume of a layer formed is increased by at least 500% in volume. With respect to claim 30 it should be noted that claim 22 already recites 2 ceramic forming additives.

### ***Allowable Subject Matter***

8. Claims 11, 18m 27 and 29 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach and/or fairly suggest a composition comprising ceramic-forming additives and volume formers where the additives and/or the formers are present in nanoparticle coated form and/or nanoparticle coated salts.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Green whose telephone number is (571)272-1367. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry A. Loreng can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Anthony J Green/  
Primary Examiner  
Art Unit 1793**

ajg  
November 12, 2009